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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,177	09/12/2003	Steven Carl Crusius	5569/79287	8291
22242 7590 09/12/2008 FITCH EVEN TABIN AND FLANNERY 120 SOUTH LA SALLE STREET SUITE 1600 CHICAGO, IL 60603-3406				
EXAMINER				
AMRANY, ADI				
ART UNIT		PAPER NUMBER		
2836				
MAIL DATE		DELIVERY MODE		
09/12/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/661,177

**Applicant(s)**

CRUSIUS ET AL.

**Examiner**

ADI AMRANY

**Art Unit**

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed August 21, 2008 have been fully considered but they are not persuasive. Petkovsek discloses that the DC/DC converter (20) boosts the battery voltage from 24 to 240 volts. This phrase quoted by applicants, however, is only one embodiment of the system and does not represent the only possible configuration. One skilled in the art would recognize that the gain of the converter (20) should be set so that it can supply sufficient power to the loads (nodes 10c, 10d). Petkovsek discloses that the loads can be a 5 or 12 volt system (col. 2, lines 31-30). With a 24-volt battery, a DC/DC converter (20) would not be required to "substantially adjust" the battery voltage to power the loads.

Further, both references included in the PTO- 892 but not specifically cited in the Final Rejection (March 23, 2008) disclose conduction paths similar to applicants' amended limitations.

Applicants' remaining arguments (pages 5-7) are a piecemeal analysis of the references. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The switches of Peplinski were not cited in the Final Rejection. The Peplinski reference was relied upon to show that it is known to use a UPS with a barrier movement operator. Applicants' arguments are drawn towards the third conduction path and the switch configuration of Peplinski. These components,

however, were discussed in the limitation analysis of Petkovsek (not Peplinski).

Peplinski is not required to disclose all of the limitations shown in Petkovsek.

Applicants have not challenged the assertion that the limitation of "for use" with a barrier movement operator is interpreted as the end use of the battery backup apparatus.

Similarly, Furst discloses the circuitry recited in claim 9. As a secondary reference, it is not necessary that Furst disclose all of the limitation of independent claim 10. These limitations are clearly met by Petkovsek and Peplinski.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation of "substantially adjusted" is indefinite because there is no indication of what is considered "substantial." Applicants' design clearly includes a diode as the unidirectional isolation device. It is common for diodes to exhibit a 0.7 voltage drop when forward biased. There is no indication in the claims that a 0.7-volt drop would be an acceptable adjustment.

It is also noted that according to applicants' specification, the battery (37) is charged to 24 volts (page 5, lines 3-5). A 0.7-volt drop across the diode (43) equates to a 2.9% reduction in battery voltage. Applicants have not addressed how this reduction is not a substantial adjustment.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petkovsek (US 4,401,895) in view of Peplinski (US 2003/0063715).

With respect to claim 10, Petkovsek discloses a battery backup apparatus (fig 1; col. 2, lines 23-26), comprising:

a DC voltage supply (12; col. 2, lines 26-31) having a mains input voltage (10a-b);

a DC power connection from the DC voltage supply to a load (14 and 10c-d; col. 2, lines 31-40);

a battery (18; col. 2, lines 53-68) having a first and second terminals;  
a first conduction path (path from 10a to 10c) and second conduction path (path from 10b to 10d) connected to the DC voltage supply (at 12);

a battery charging circuit (16) for receiving a DC voltage from the DC voltage supply via the first conduction path and the second conduction path (at 26, 28) and for charging the battery when the DC voltage from the DC voltage supply exceeds a predetermined voltage (col. 4, lines 14-31 and 49-58); and

a third conduction path comprising a unidirectional isolation device (D1; col. 3, lines 9-20) connecting a battery DC voltage from the first battery terminal

to the Dc voltage supply via the first conduction path such that a magnitude of the battery dc voltage is conducted along the third conduction path without being substantially adjusted by any intervening electrical device along the third conduction path when the mains voltage input fails (col. 4, lines 32-34).

Petkovsek discloses a unidirectional isolation device to bypass the battery charger and supply power from the battery to the conduction paths during mains power failure, as recited in the claim. Petkovsek discloses a converter (20) along the third conduction path. One skilled in the art would recognize that the converter may be set to a gain value which does not “substantially adjust” the battery voltage. As discussed above, “substantially adjusted” is an objected term as it depends on the reader to make his/her own conclusion as to what is acceptable. Further, discovering an optimum value of a result effective variable (converter gain) involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Petkovsek does not expressly disclose the battery backup apparatus is for use with a barrier movement operator and that the DC power connection supplies power to a barrier movement control. Peplinski discloses a backup battery apparatus (fig 1-2; par 19) for use with a barrier movement operator comprising a DC power connection from the DC voltage supply (output of rectifier; par 21) to a barrier movement control (70, 84). The limitation of “for use” with a barrier movement operator is interpreted as the end use of the battery backup apparatus. Petkovsek and Peplinski are analogous because they are from the same field of endeavor, namely battery backup apparatuses. At the time of the invention by applicants, it would have been obvious to one skilled in the art to

configure the Petkovsek battery backup apparatus to supply DC power to the barrier movement operator disclosed in Peplinski. The barrier movement operator is the end use of the device, and the Petkovsek battery backup apparatus would operate in the same manner regardless of the load it is connected to.

With respect to claim 2, Petkovsek (24; col. 3, lines 49-56) and Peplinski (fig 2, item 180; page 3, par 24) both disclose an audible signaling device.

With respect to claim 3, Peplinski further discloses an apparatus (par 25-26) for enabling the audible signaling device in response to current flowing from the battery to the DC voltage supply via the unidirectional isolation device.

With respect to claim 4, Petkovsek (24; col. 3, lines 49-56) and Peplinski (pars 32-33) both disclose one or more visual signaling devices. Peplinski discloses that the battery backup apparatus can connect to the Internet and transmit fax messages to inform the user of system conditions.

With respect to claim 5, Petkovsek (col. 2, lines 53-68) and Peplinski (fig 6a, item R1; par 44) discloses the battery charging device comprises circuitry for limiting a current applied to the first battery terminal.

With respect to claim 6, Petkovsek (col. 2, lines 65-68) and Peplinski (par 44, lines 1-2) disclose the circuitry for limiting, limits the current to an amount less than a predetermined maximum amount.

With respect to claim 7, Peplinski further discloses cut out circuitry (fig 6b, items K1, K2, S1 and S2; page 4, pars 37 and 38) for disconnecting the first battery terminal from the unidirectional device.

With respect to claim 8, Peplinski further discloses cutout circuitry (fig 6b, items K1-4, S1 and S2; page 4, par 38) for disconnecting the first battery terminal from the battery charging device.

With respect to claim 11, Peplinski discloses the predetermined voltage is 18 volts (par 41). At the time of the invention by applicants, it would have been obvious to one skilled in the art to reconfigure the predetermined voltage to be greater than 20 volts since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

6. Claims 2-8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petkovsek in view of Peplinski and Kamioka (US 5,990,577).

Petkovsek and Peplinski disclose a battery backup apparatus for use with a barrier movement operator of claims 2-8 and 10-11, as discussed above. Kamioka discloses a battery backup apparatus (fig 1; col. 4, line 31 to col. 6, line 13) comprising a mains input (plug), a DC connection to a load (20), a battery (13), first (horizontal line labeled +15V and containing D3) and second (horizontal line labeled GND) conduction paths and

A third conduction path (vertical line containing D2) comprising a unidirectional isolation device (D2) connecting a battery voltage to the DC supply via the first conduction path (at connection of cathodes of D2 and D3) such that a magnitude of the battery dc voltage is conducted along the third conduction path



without being substantially adjusted by any intervening electrical device along the third conduction path when the mains voltage fails (col. 4, lines 55-67).

Kamioka discloses that the only intervening electrical device on the third conduction path is transistor Q1, which does not substantially adjust the battery voltage. The battery voltage is adjusted by converter (12). Petkovsek, Peplinski and Kamioka are analogous because they are from the same field of endeavor, namely battery backup apparatuses. At the time of the invention by applicants, it would have been obvious to one skilled in the art to combine the Petkovsek up-converter (20) and down converter (14) to a single converter as disclosed in Kamioka (12) in order to supply highly stabilized voltages to the loads. Further it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

7. Claims 2-8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petkovsek in view of Peplinski and Lucas (US 6,642,632).

Petkovsek and Peplinski disclose a battery backup apparatus for use with a barrier movement operator of claims 2-8 and 10-11, as discussed above. Lucas discloses a battery backup apparatus (fig 2; col. 2, line 53 to col. 3, line 20) comprising a mains input (12), a DC connection to a load (22), a battery (20), first (top horizontal line) and second (bottom horizontal line) conduction paths and

A third conduction path (output of battery containing 26) comprising a unidirectional isolation device (26) connecting a battery voltage to the DC supply via the first conduction path (at connection of cathodes of 14 and 26) such that a

magnitude of the battery dc voltage is conducted along the third conduction path without being substantially adjusted by any intervening electrical device along the third conduction path when the mains voltage fails (col. 3, lines 1-4).

Lucas discloses that the only intervening electrical device on the third conduction path is the diode (26), which does not substantially adjust the battery voltage. The regulator (18) is purposefully placed upstream of the battery so as to not substantially adjust the battery output voltage. Petkovsek, Peplinski and Lucas are analogous because they are from the same field of endeavor, namely battery backup apparatuses. At the time of the invention by applicants, it would have been obvious to one skilled in the art to combine the backup battery disclosed in Petkovsek with the battery disclosed in Lucas in order to select a battery of sufficient size to power the loads without requiring a loss-inducing converter. Further it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Petkovsek in view of Peplinski and Furst (US 5,844,328).

With respect to claim 9, Petkovsek and Peplinski do not expressly disclose circuitry for selectively disconnecting the first battery terminal from the first conduction path when the first conduction path is disconnected from the input DC voltage.

Furst discloses a backup battery apparatus comprising a switch 72 that allows the backup battery 12 to be disconnected from the load 20 at any time desired by the user (fig 1, items 72; col. 6, lines 53-64). Petkovsek, Peplinski and Furst are analogous

because they are from the same field of endeavor, namely battery backup apparatuses. At the time of the invention by applicant, it would have been obvious to combine the battery backup apparatus disclosed in Petkovsek and Peplinski with the cutout switch disclosed in Furst in order to disconnect the battery to prevent any current discharge when the battery backup apparatus is not connected to a power source.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicants are requested to review the cited references in their entirety.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADI AMRANY whose telephone number is (571)272-0415. The examiner can normally be reached on Mon-Thurs, from 10am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Sherry/

Supervisory Patent Examiner, Art Unit 2836

AA